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## REPORT NO.

25X1

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COUNTRY USSR (Kalinin Oblast)

DATE DISTR. 21 July 1952

SUBJECT Proposed Power Plants for Experimental Air Frame  
Types 463 and 446 at Podberezhe

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1. Types 463 and 446 were constructed only as experimental air frames and on completion were parked in the factory (probably Zavod No. 1). Each machine was to have two new type power plants, which were still under development in 1950.
2. Power plants for types 463 and 446 were developed and tested in Podberezhe. The fuel to be used was called Pena, in conjunction with Salbei. This fuel was said to have been developed by Dr. D. Dunken. The power plant consisted of a 120 cm. long cylinder with an approximate diameter of 20 cm., narrowing to the rear to a diameter of approximately 12 cm. It was constructed of approximately 12 to 14 mm strength V2A steel and was electrically arc welded. A jet plate containing 12 jets was mounted at the entrance to the cylinder. The jets had a gap of approximately 1.5 to 2 mm. Pipes from the jets led via pumps and controllers to the tanks containing Pena and Salbei. A cooling jacket surrounded the whole cylinder (see attachment).
3. The designation of this power plant was unknown. Tests carried out in 1950 with this power plant were held up constantly because of the jets' becoming stopped up with sodium particles. In order to overcome the stopping of the jets, the length of the cylinders was considerably modified. The most suitable modification proved to be a pressure of 50 to 70 atm. Because of this high pressure, the welded parts often burst asunder.
4. Research with Pena/Salbei solution was discontinued in 1951 and it was decided to continue the research using petroleum fuel. After the equipment was inspected by approximately 35 Soviet scientists, it was dismantled.

Attachment: Sketch of power plant for EF types 463 and 446.

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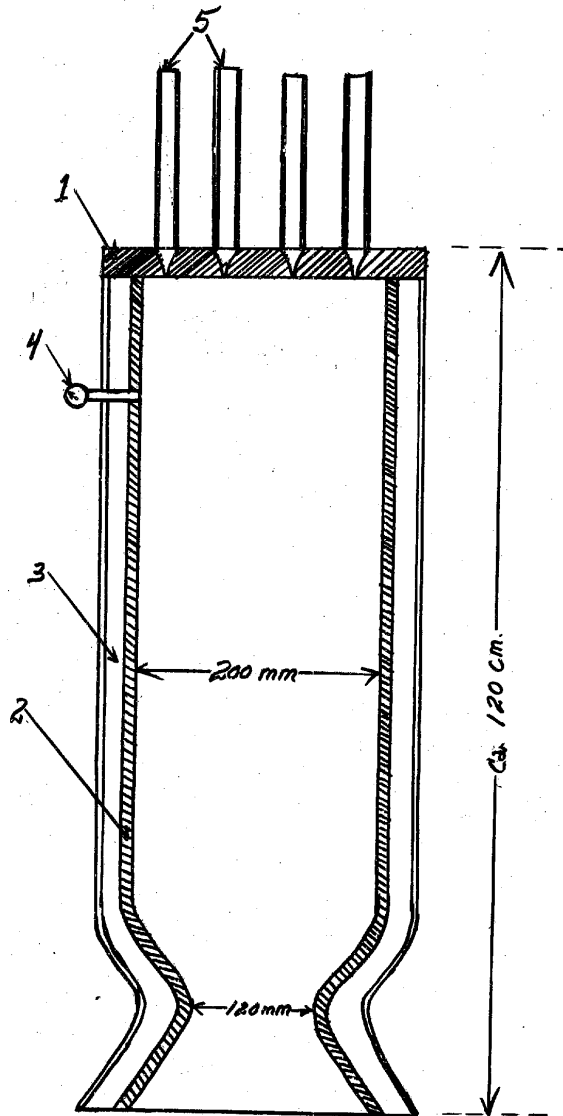
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Attachment

Sketch of Power Plant of EF Types 463 and 446



Key

1. Jet plate containing 12 jets
2. Cylinder, 12-14 mm strength V2A steel
3. Cooling jacket
4. Manometer
5. Lead-in pipes

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